



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/610,284	07/06/2000	Herbert Bachler	32794	5343

116 7590 08/23/2006

PEARNE & GORDON LLP
1801 EAST 9TH STREET
SUITE 1200
CLEVELAND, OH 44114-3108

EXAMINER

DABNEY, PHYLESHA LARVINIA

ART UNIT	PAPER NUMBER
----------	--------------

2615

DATE MAILED: 08/23/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/610,284

Applicant(s)

BACHLER ET AL

Examiner

Phylesha L. Dabney

Art Unit

2615

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 August 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 12-27 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 12-27 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Art Unit: 2615

DETAILED ACTION

This action is in response to the arguments received on 04 March 2005 in which claims 12-27 are pending and claims 1-11 were cancelled.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 12-13, 14-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over “IEEE 1451:P A Standard in Support of Smart Transducer Networking”.

Regarding claims 12-13, 15, and 22, the article “IEEE 1451: A Standard in Support of Smart Transducer Networking” teaches self-contained hardware units (smart transducers standard 1451, page 525, col. 1 under the summary, lines 9-12), peripheral with respect to a digital signal processing (microprocessor, page 528, col. 1 lines 1-4) unit inherently having inputs and outputs and operationally connected to said inputs and outputs of the said digital signal processing unit; an identification unit (TEDS, page 526, col. 1, section 2.1, lines 1-11) in at least one of said peripheral self-contained hardware units, the an identification unit (page 527, col. 2 lines 1-11) having an output and containing identification information identifying said hardware unit; a storage unit (NCAP, page 526, col. 1 section 2.1 lines 11-15; page 527 section 2.3 lines 16-19; also see pertinent prior art section below) remote from said hardware unit

Art Unit: 2615

containing identification information of identifying more than one hardware peripheral unit (page 527, col. 1 lines 12-19) inherently having an output; a comparing unit (Plug and Play feature inherently comprising a comparing unit, page 528, section 4, col. 1 lines 13-14) remote from said hardware unit and having a first input, a second input, and an output, said output of said identification unit being operationally connected to the first input, and said output of said storage unit being operationally connected to the second input; and a memory unit (NCAP inherently having a memory unit as related to Plug and Play, page 526, col. 1 section 2.1 lines 11-15; page 527 section 2.3 lines 16-19; also see pertinent prior art section below) being operationally connected to the output of said comparing unit for storing the current configuration of said hearing device with respect to said peripheral self-contained hardware unit.

The IEEE 1451 article does not teach this specific element configuration, i.e. self-contained hardware units, etc., being used in a hearing aid device. However, since the article teaches a known standard for the common interface and connectivity of self-contained peripherals, i.e. transducers, microphones, sensors, actuators, or the like, to microprocessing systems and the article doesn't exclude a hearing device from the type of microprocessing system used for enabling the technological advancement of smart transducers interfacing, it would have been obvious to one of ordinary skill in the art that the specific element configuration outlined could have been used in the hearing aid device for beneficially allowing the upgrade of transducers with higher accuracy and enhanced capability, and replacing transducers for maintenance purposes by simple "Plug and Play".

Art Unit: 2615

Regarding claim 14, the article teaches the at least one of the self-contained peripheral hardware units and the digital signal processing unit is operationally connected via at least one data bus and interface unit (microprocessor, page 528, col. 1 lines 1-4).

Regarding claim 16, the article does not specifically teach the interfaces including three-wire and/or two-wire interfaces (page 527 col. 2 lines 1-6). However, the examiner takes official notice that it is known in the art to use two-wire or three-wire interfaces (integrated circuits, ICs) to allow multiple peripherals the ability to transmit and receive information via an integrated circuit as opposed to multiple wiring structures. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use two-wire and/or three-wire interfaces to simplify the wiring structure of the hearing aid.

Regarding claim 17, the article teaches at least a second of the at least one self-contained hardware peripheral units (page 527, col. 1 lines 16-17), and wherein the one of said self-contained hardware peripheral units treating audio signal components (analog transducer, page 525 col. 1 line 13) of the device and being operationally connected to the digital processing unit via a first data bus with first interface units (page 527, col. 1 lines 12-19); and the second of the self-contained hardware peripheral units treating control being operationally processing unit via a second data bus and second interface units (page 527, col. 1 lines 12-19).

Regarding claims 18-19, see rejection of claims 12 and 16.

Regarding claims 20-21, the article does not teach the first interfaces preferably being at least three-wire interfaces, the second interfaces preferably being at least two-wire interfaces, the former preferably being based on I²S interfaces and the latter preferably being based on I²C interfaces. However, the examiner takes official notice that it is known in the art to use two-wire

Art Unit: 2615

or three-wire interfaces (integrated circuits, ICs) to allow multiple peripherals the ability to transmit and receive information via an integrated circuit as opposed to multiple wiring structures. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use two-wire and/or three-wire interfaces to simplify the wiring structure of the hearing aid. Furthermore, it would have been obvious to one of ordinary skill in the art to use two-wire interface connected to the control components for transmitting one line of data (one transmit/receiver signal) plus one clock line and three-wire interfaces connected to the audio components for transmitting two lines of data plus one clock line (such as a left and right audio signal) plus one clock line. Therefore, it would have been obvious to one of ordinary skill in the art to use multiple type of integrate circuit interfaces in the invention for transmitting and/or receiving different type of signals and simplifying the wiring structure.

Regarding claim **23**, the rejection does not teach the output of the device is an output of a transceiver. However, it is known for hearing aid device to utilize transceivers for remotely sending and receiving data. Therefore, it would have been obvious one of ordinary skill in the art at the time the invention was made to use a transceiver in the hearing device for wirelessly transmitting data.

Regarding claims **24-27**, see the rejection of claims 12-15 as pertaining to the method of claims 24-27.

Response to Arguments

Applicant's arguments filed have been fully considered but they are not persuasive.

Art Unit: 2615

With respect to the Applicant's argument that the IEEE 1451 reference does not antedate the effective filing date of 24 November 1998 of the application, the Examiner agrees. However, MPEP section 2124 states "in some circumstances a factual reference need not antedate the filing date if a reference is used to show a universal fact." In re Wilson, 311 F.2d 266, 135 USPQ 442 (CCPA 1962). Such facts include the characteristics and properties of a material or a scientific truism. A specific example in which later publications showing factual evidence can be cited include situations where the facts shown in the reference are evidence "that, as of an application's filing date,...characteristics of prior art products were known, In re Wilson, 311 F.2d 266, 135 USPQ 442 (CCPA 1962)." In re Koller, 613 F.2d 819, 823 n.5, 204 USPQ 702, 706 n.5 (CCPA 1980) (quoting In re Hogan, 559 F.2d 595, 605 n.17, 194 USPQ 527, 537 n.17 (CCPA 1977) (emphasis in original)). References which do not qualify as prior art because they postdate the claimed invention may be relied upon to show the level of ordinary skill in the art at or around the time the invention was made. Ex parte Erlich, 22 USPQ 1463 (Bd. Pat. App. & Inter. 1992).

In this instance, the IEEE 1451 family of standards ,specifically the IEEE 1451.2 which allows the self description of sensors, etc. was known and used prior to November 1998 as evidenced by Article: "IEEE 1451: A standard in support..." references cited section which shows in item 1: "IEEE std 1451.2 - 1997, "Standard for a Smart Transducer Interface..." published September 26, 1997, and disclosed in part in the prior art referenced under section 2.1.

Furthermore, the Examiner is including an addition article in support of these findings (listed below).

In light of these findings, the Examiner is maintaining the rejection.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

The article: "Overview and Status Update for IEEE 1451.2" specifically teaches that the IEEE 1451.2 standard was approved by NIST (National Institute of Standards and Technology) in September 1997, and latter published September 1998 (see page 36).

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Phylesha L. Dabney whose telephone number is 571-272-7494. The examiner can normally be reached on Mondays, Tuesdays, Wednesdays, Fridays 8:30-4 PM.

Art Unit: 2615

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sinh Tran can be reached on 571-272-7564. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks
P O Box 1450
Alexandria, VA 22313-1450

Or faxed to:

(703) 273-8300, for formal communications intended for entry and for informal or draft communications, please label "Proposed" or "Draft" when submitting an informal amendment.

Hand-delivered responses should be brought to:

Customer Service Window
Randolph Building
401 Dulany Street
Alexandria, VA 22314

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

August 20, 2006

PLD


CURTIS KUNTZ
SUPERVISORY PATENT EXAMINER
ENTER 2600